

**ABSTRACT**

A method of repairing opaque defects in lithography masks entails focused ion beam milling in at least two steps. The first step uses a large pixel spacing to form multiple holes in the defect material, with the milled area extending short of the defect material edge. The final  
5 the defect material, with the milled area extending short of the defect material edge. The final step uses a pixel spacing sufficiently close to produce a smooth floor on the milled area, and extends to the edge of the defect. During the second step, an etch enhancing gas such as bromine is preferably used.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.